

SAR Exclusion Analysis

Per FCC KDB 447498 D01v06, the SAR exclusion threshold for distances < 50 mm is defined by the following equation:

$$\frac{\text{Max Power of Channel (mW)}}{\text{Test Separation Distance (mm)}} \times \sqrt{\text{Frequency (GHz)}} \leq 3.0, \text{ for head and body SAR;}$$

$$\frac{\text{Max Power of Channel (mW)}}{\text{Test Separation Distance (mm)}} \times \sqrt{\text{Frequency (GHz)}} \leq 7.5, \text{ for Extremity SAR.}$$

For 100 MHz to 6 GHz and test separation distances > 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

- 1) {[Power allowed at numeric threshold for 50 mm in step a)] + [(test separation distance – 50 mm) * (f(MHz)/150)]} mW, for 100 MHz to 1500 MHz
- 2) {[Power allowed at numeric threshold for 50 mm in step a)] + [(test separation distance – 50 mm)*10]} mW, for > 1500 MHz and ≤ 6 GHz

Antenna Distance to Phantom/User (mm)					
Front	Back	Left	Right	Top	Bottom
N/A	10	160	23	5	135

Note:

1. Antenna to user distance = Antenna to out-surface of EUT distance + Out-surface of EUT to user distance
2. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

■ Required test configuration

Rugged Tablet						
Band	Front	Back	Left	Right	Top	Bottom
DTS	N/A	Yes	No	Yes ^{*1}	Yes	No
Bluetooth ^{*2}	N/A	No	No	No	No	No

Note:

“ *1 ”, marked configuration SAR test is required, which is to get more conservative SAR values.

“ *2 ”, BT : (6dBm/5mm)* √ 2480MHz = 1.25 ,So. The Bluetooth exclusion analysis ≅ 3 , So SAR evaluation is not required.